

REMARKS

There are now pending in this application claims 1, 5-7, 9, 10, 25-27, 29 and 31, of which claims 1, 5, 6, and 7 are independent. Claims 28 and 30 have been canceled without prejudice or waiver of their subject matter, the subject matter of those claims having been essentially incorporated into one of the independent claims. No claims have been added.

In view of the above amendments and the following remarks, favorable reconsideration and allowance of the above application is respectfully sought.

Initially, Applicants respectfully request entry of the above amendments. The Examiner will appreciate the amendments to claims 1, 5 and 6 correspond to now canceled claim 28 and the amendment to claim 7 corresponds to now canceled claim 30. In each case, Applicants have further amended the language being incorporated into the independent claims to improve the form of those claims. However, it is respectfully submitted that examination of the claims as amended will expedite prosecution. Entry of those amendments is, therefore, respectfully sought.

The specification was objected to on grounds that it lacked proper antecedent basis for portions of the claimed subject matter, and particularly for the “second determination step” and the “third velocity command value generation step” or “means.” As the Examiner will appreciate, Applicants have amended page 16 of the specification in the manner believed to provide that antecedent basis. More specifically, the second determination step corresponds to step S706 wherein when the mechanism does not arrive at the predetermined position that corresponds to the “NO” branch from step S705 and that predetermined position corresponds to POSCHG in Figure 7. Similarly, the third velocity command value generation step and means corresponds to step S709 wherein when the elapsed time has reached a predetermined time corresponds to the

“YES” branch from step S706. It is, therefore, respectfully requested that the objection to the specification be withdrawn.

Claim 31 has been amended to correct the noted informality therein. Withdrawal of the objection is respectfully sought.

Claims 28 and 30 stand rejected under 35 U.S.C. § 112, first paragraph. Each of these claims has been canceled and thus, the rejection with respect to the claims has been rendered moot.

Nevertheless, as noted above, the subject matter of claims 28 and 30 has been incorporated into the independent claims. Those claims recite the elements of a second determination step, a third velocity command value generation step, and a third velocity command value generation means. As noted above, and as explained above, those elements are disclosed in the specification at least in Figure 7 and on page 15, line 27, through page 16, line 10 of the specification. Given that further amendments to the specification providing antecedent basis for the specific language used, it is respectfully submitted that such language is now clearly supported.

In the outstanding Office Action, independent claims 1 and 5-7 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kono et al. (U.S. Patent No. 5,030,900). Prior art was not applied against claims 28 or 30. In any event, given the above amendments to the independent claims, rejections thereon are respectfully traversed.

As set forth in each of the independent claims in the above application, there is recited at least first, second and third velocity command value generation means or steps wherein in the third velocity command value generation means or step there is output a constant velocity

command value to the DC motor when it is determined in the second determination step or elsewhere that the elapsed time has exceeded a predetermined time. Thus, as recited in each claim, there is the important feature in that in deceleration, the velocity command value generation function is changed from a first function to a second function when the mechanism arrives at a predetermined position (corresponding to POSCHG in the specification) and then the velocity command value is changed to a constant value (V2) when the elapsed time (Tx) has been reached to a predetermined (T). Alternately, the velocity command value is directly changed to the constant value (V2) when the elapsed time (Tx) has reached the predetermined time (T). Thus, deceleration control in the claimed invention combines both time control and position control. As a result of this combination of features, the time required to stop the mechanism can be effectively reduced without degrading positioning accuracy.

Kono et al. has been discussed previously and that discussion is incorporated herein by reference. In addition, it is noted that Kono et al. features a spindle orientation control apparatus having a plurality of deceleration regions, as shown in Figure. 3. However, in Kono et al., when the LS signal is detected at time t_{b0} the velocity command is reduced by an amount of feedback velocity pulse, as shown in Figure 4(b). Thus, the deceleration control in Kono et al. is not based on the elapsed time and deceleration, but on the velocity pulse. Nor is there any teaching or suggestion in Kono et al. of the change of the velocity command value based on the combination of the elapsed time and the arrived position. Thus, Kono et al. is not understood to teach or even suggest the invention as recited in the independent claims of the above application.

The secondary references were cited in part against dependent claims and are not understood to meet any of the above discussed shortcomings of Kono et al. Accordingly, it is

respectfully submitted that, even in combination with Kono et al., the remaining art of record does not teach or suggest the invention of claims 1 or 5-7.

For the foregoing reasons, Applicants respectfully submit that each of independent claims 1 and 5-7 are patentable over the art of record. The remaining claims of the above application are dependent claims which dependent from one of the above discussed independent claims and are, therefore, patentable over the art of record for the reasons noted above with respect to the independent claims. In addition, each recite features of the invention still further distinguishing it from the applied art. Favorable and independent consideration thereof is respectfully sought.

Applicants respectfully request entry of the above amendments for reasons noted above together reconsideration and allowance of the above application.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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